

Claims

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is as follows:

1. A portable tire and wheel lifting apparatus, comprising:
 - a base having opposed side members;
 - a pair of piston cylinder combinations, each piston cylinder combination having a pneumatic cylinder pivotally coupled to a respective side member and a lifting arm extending from said pneumatic cylinder for relative movement between retracted and extended configurations;
 - wherein each lifting arm of said pair of piston cylinder combinations includes a first end received in a respective pneumatic cylinder and a second opposed end, said lifting arms being pivotally coupled together intermediate respective first and second ends;
 - wherein said second ends of said lifting arms are configured to support a tire and wheel thereon; and
 - means for actuating said pair of piston cylinder combinations to move said lifting arms from said retracted configuration to said extended configuration, whereby to elevate said second ends of said lifting arms.

1 2. The apparatus as in claim 1 further comprising a ramp member mounted to one of
2 said side members of said base, said ramp member having a configuration for smoothly rolling a
3 tire between a ground surface and said second ends of said lifting arms when said lifting arms are
4 at said retracted configuration.

1 3. The apparatus as in claim 1 further comprising a pair of ramp members mounted
2 on respective said side members of said base, each said ramp member having a configuration for
3 smoothly rolling a tire between a ground surface and said second ends of said lifting arms when
4 said lifting arms are at said retracted configuration.

1 4. The apparatus as in claim 1 further comprising a pair of support members fixedly
2 attached to respective said second ends of said lifting arms for supporting said tire and wheel
3 atop said second ends of said lifting arms.

1 5. The apparatus as in claim 4 further comprising a pair of rollers rotatably mounted
2 to respective support members.

1 6. The apparatus as in claim 1 wherein each lifting arm includes a lower segment
2 angularly offset from an upper segment.

1 7. The apparatus as in claim 1 wherein said means for actuating said pair of piston
2 cylinder combinations to move said lifting arms from said retracted configuration to said
3 extended configuration is a foot pump operatively connected to said pair of piston cylinder
4 combinations.

1 8. The apparatus as in claim 1 further comprising means for releasing said pair of
2 piston cylinder combinations for movement of said lifting arms from said extended configuration
3 to said retracted configuration.

1 9. The apparatus as in claim 1 wherein said base and said pair of piston cylinder
2 combinations are configured to fit within an automobile tire cavity when said lifting arms are at
3 said retracted configuration.

1 10. The apparatus as in claim 1 wherein said pneumatic cylinders are air cylinders.

1 11. The apparatus as in claim 10 further comprising an air inlet valve in said base and
2 tubing for connecting said air cylinders to said air inlet valve.

1 12. The apparatus as in claim 10 further comprising a valve for releasing air from said
2 air cylinders, whereby to move said lifting arms from said extended configuration to said
3 retracted configuration.

1 13. A portable tire and wheel lifting apparatus, comprising:
2 a base having opposed side members;
3 a pair of lifting arms pivotally coupled to one another and arranged in a scissor
4 configuration for relative up and down movement, each said lifting arm having a
5 first end and a second opposed end;
6 a pair of air cylinders pivotally coupled to respective side members of said base, each air
7 cylinder receiving a corresponding first end of a respective lifting arm for relative
8 movement of said respective lifting arm between retracted and extended
9 configurations;
10 means for selectively imparting a stream of air to said pair of air cylinders for moving
11 said lifting arms from said retracted to said extended configuration;
12 means for selectively releasing air from said pair of air cylinders for moving said lifting
13 arms from said extended configuration to said retracted configuration; and
14 wherein said second ends of said lifting arms are configured to support a tire and wheel
15 thereon.

1 14. The apparatus as in claim 13 further comprising at least one ramp member
2 mounted to at least one of said side members of said base, said at least one ramp member having
3 a configuration for allowing a tire to be rolled smoothly between a ground surface and said
4 second ends of said lifting arms.

1 15. The apparatus as in claim 13 further comprising a pair of rollers rotatably
2 mounted to respective said second ends of said lifting arms for supporting said tire and wheel
3 atop said rollers and allowing said tire and wheel to rotate thereon.

1 16. The apparatus as in claim 13 wherein each said lifting arm includes a lower
2 segment angularly offset from an upper segment.

1 17. The apparatus as in claim 13 further comprising an air inlet valve in said base and
2 tubing to connect said air cylinders to said air inlet valve.

1 18. The apparatus as in claim 13 further comprising a plurality of wheels coupled to
2 said base for selective movement of said base along a ground surface.

1 19. A portable tire lifting apparatus, comprising:
2 a scissor jack assembly having an upper end configured to support a tire/wheel
3 combination and having a plurality of piston cylinder combinations for moving
4 said upper end between retracted and extended configurations; and
5 a bellows operatively coupled to said piston cylinder combination for selectively
6 actuating said piston cylinder combinations upon operation by a user's foot.

1 20. The apparatus as in claim 19 further comprising a ramp member connected to said
2 scissor jack for allowing a tire to be smoothly rolled between a ground surface and said upper
3 ends of said scissor jack when said upper ends are at said retracted configuration.